

REMARKS

Please consider the following comments. Following this response, claims 1-10 and 12-18 are pending. Applicant respectfully requests reconsideration and allowance of this application in view of the above amendments and the following remarks.

Claim Objection

The Examiner has objected to claim 11 under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of the previous claim.

By this response, Applicant has canceled claim 11, thus rendering moot this ground of rejection. Applicant therefore respectfully requests that the Examiner withdraw the objection to claim 11.

Claim Amendment

By this response Applicant has amended claims 12-14 to depend from claim 6 instead of canceled claim 11.

Because this amendment is being made solely to correct a dependency because of a forma issue, and not in response to an art rejection, any narrowing amendment to the claims in the present response is not to be construed as a surrender of any subject matter between the original claims and the present claims; rather this is merely an attempt at providing one or more definitions of what the applicant believes to be suitable patent protection. The present claims provide the intended scope of protection that the applicant is seeking for this application. Therefore, no estoppel should be presumed, and the applicant's claims are intended to include a scope of protection under the Doctrine of Equivalents.

Rejections – 35 U.S.C. § 112

The Examiner has rejected claims 10 and 18 under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enablement requirement. In particular, the Examiner alleges that the claim contains subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or to which it is most nearly connected, to make and/or use the invention. Specifically, the Examiner asserts that the specification does not disclose that “the reference voltage is a variable voltage source” as recited in claims 10 and 18. Applicant respectfully traverses this rejection.

The Examiner notes that the paragraph on page 7, lines 12-15 of Applicant’s specification states that “[t]he predetermined voltage level at which the protecting switch SW is switched from ON to OFF or OFF to ON can be arbitrarily set by changing the divider resistors 53, 53 or the reference voltage Vos.” (This paragraph was amended in the response dated May 31, 2006, to correct a typographical error and refer to “the divider resistors 53, 54.”) But the Examiner contends that varying the value of the resistive divider cannot change the reference voltage. The Examiner also contends that the reference voltage is set by the value of the battery voltage, citing FIGs. 2-5.

In making this rejection, Applicant notes that the Examiner mischaracterizes what the cited paragraph states. This paragraph does not state that the reference voltage can be changed by changing the divider resistors. Rather, it notes that the predetermined voltage level at which the protecting switch SW is switched from ON to OFF or OFF to ON can be arbitrarily set by changing at least one of two properties: (1) the divider resistors 53, 54; or (2) the reference voltage Vos. In other words, “the predetermined voltage level ... can be arbitrarily set by changing ... the reference voltage Vos.”

Although, as the Examiner notes, Applicant's drawings, all show a battery, these are just exemplary embodiments. The cited portion of the specification clearly states that the reference voltage V_{os} can be changed. Applicant also notes that variable voltage batteries are known in the art, so having a battery and a variable voltage source are not mutually exclusive.

Thus, the specification directly shows a change in the reference voltage V_{os} , quite independent of the divider resistors. In other words, this paragraph does support that the predetermined voltage level for the switch SW can be changed by changing the reference voltage V_{os} . This paragraph, therefore, supports the fact that the reference voltage V_{os} can be variable.

However, in an effort to expedite prosecution, Applicant has amended claims 10 and 18 to recite that the voltage source is a variable voltage battery, rather than a variable voltage source.

Thus, based on at least the reasons given above, Applicant submits that claims 10 and 18 are fully enabled and meet all of the requirements of 35 U.S.C. § 112, first paragraph. Applicant therefore respectfully requests that the Examiner withdraw the rejection of claims 10 and 18 under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enablement requirement.

Rejections – 35 U.S.C. § 102

The Examiner has rejected claim 1 under 35 U.S.C. § 102(b) as being allegedly anticipated by Japanese Patent No. JP361221674A to Yaejima et al. ("Yaejima").

By this response Applicant has amended claim 1 to incorporate the limitations of claim 2, which the Examiner has acknowledged in the rejection under 35 U.S.C. § 103 set forth below are not disclosed in Yaejima, thus rendering this rejection moot.

Applicant therefore respectfully requests that the Examiner withdraw the rejection of claim 1 under 35 U.S.C. § 102(b) as being allegedly anticipated by Yaejima.

Rejections – 35 U.S.C. § 103

The Examiner has rejected claims 2-5 and 7-10 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yaejima in view of United States Patent No. 5,703,412 to Takemoto et al. (“Takemoto”). Applicant respectfully traverses this rejection.

By this response Applicant has canceled claim 2, thus rendering this rejection moot as it pertains to claim 2.

In addition, although claim 1 is not a part of this rejection, Applicant has canceled claim 2 and has amended claim 1 to incorporate the limitations of canceled claim 2. Therefore, Applicant addresses claim 1 here, since it contains all the limitations of canceled claim 2. In addition, Applicant has amended claim 1 to recite that “the protecting switch also functions as a rectifying diode.” Support for this amendment can be found, for example, in Applicant’s specification on page 8, lines 3-23, and in Applicant’s FIG. 4. Nothing in Yaejima or Takemoto, alone or in combination, discloses or suggests this feature.

The Examiner relies upon Yaejima for a teaching of the recited protecting switch. However, Yaejima simply shows a bipolar junction transistor 5 in the portion relied on by the Examiner. Nothing in Yaejima discloses or suggests that this transistor 5 also function as a rectifying diode.

Having the protecting switch also function as a rectifying diode provides an advantage in that the resulting power supply device can be manufactured at a lower cost than if a separate switch and rectifying diode were required.

Claims 3-5 and 7-10 depend from claim 1 and are allowable for at least the reasons given above for claim 1.

Therefore, for at least the reasons given above, Applicant respectfully requests that the Examiner withdraw the rejection of claims 1-5 and 7-10 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yaejima in view of Lyon.

The Examiner has rejected claim 6 and 11-18 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yaejima, in view of Takemoto, and United States Patent No. 6,859,020 to Baldwin et al. (“Baldwin”), and United States Published Patent Application No. 2002/0130645 to Tsai et al. (“Tsai”).

By this response Applicant has canceled claim 11, thus rendering this rejection moot as it pertains to claim 11.

By this response, Applicant has amended claim 6 to better recite the present invention. Amended claim 6 recites “a protecting switch disposed in the voltage booster for disconnecting the electrical circuit from the power source when the control signal is supplied from the voltage comparator thereby protecting the electrical circuit from overvoltage.” Nothing in Yaejima, Takemoto, Baldwin, or Tsai discloses or suggests this feature. In particular, nothing in any of these references shows a switch formed in a voltage booster. In each case where the Examiner cites a switch, it is separate from any element the Examiner relies upon to show a voltage booster. And in the case of Yaejima and Tsai, the switch is in a separate reference from any element the Examiner relies upon to show a voltage booster.

In each case the Examiner relies upon, the element that the Examiner relies upon to show the switch operates solely as a switch to isolate power. Given that, there would be no reason in the cited references to place a switch within a voltage booster.

Amended claim 6 also recites that “the protecting switch also functions as the rectifying diode in the voltage booster.” Support for this amendment can be found, for example, in Applicant’s specification on page 8, lines 3-23, and in Applicant’s FIG. 4. Nothing in Yaejima, Takemoto, Bladwin, or Tsai, alone or in combination, discloses or suggests this feature.

The Examiner relies upon Yaejima and Tsai for a teaching of the recited protecting switch. However, Yaejima simply shows a bipolar junction transistor 5 in the portion relied on by the Examiner. Nothing in Yaejima discloses or suggests that this bipolar transistor 5 also function as a rectifying diode. Likewise, Tsai simply discloses an NMOS transistor 209 as an overvoltage protection circuit. Nothing in Tsai discloses or suggests that this NMOS transistor 209 also function as a rectifying diode.

As noted above, having the protecting switch also function as a rectifying diode provides an advantage in that the resulting power supply device can be manufactured at a lower cost than if a separate switch and rectifying diode were required.

Claims 12-18 all ultimately depend from claim 6 and are allowable for at least the reasons given above for claim 6.

Therefore, for at least the reasons given above, Applicant respectfully requests that the Examiner withdraw the rejection of claims 6 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Takemoto in view of Lyon, and further in view of Brkovic.

New Claim

By this response, Applicant has added new claim 19. No new matter has been added in these new claims. Applicant respectfully requests that the Examiner enter and consider these new claims.

Conclusion

Applicant respectfully submits that, as described above, the cited prior art does not show or suggest the combination of features recited in the claims. Applicant does not concede that the cited prior art shows any of the elements recited in the claims. However, applicant has provided specific examples of elements in the claims that are clearly not present in the cited prior art.

Applicant strongly emphasizes that one reviewing the prosecution history should not interpret any of the examples Applicant has described herein in connection with distinguishing over the prior art as limiting to those specific features in isolation. Rather, for the sake of simplicity, Applicant has provided examples of why the claims described above are distinguishable over the cited prior art.

In view of the foregoing, Applicant submits that this application is in condition for allowance. A timely notice to that effect is respectfully requested. If questions relating to patentability remain, the Examiner is invited to contact the undersigned by telephone.

Although it is not anticipated that any additional fees are due or payable, the Commissioner is hereby authorized to charge any fees that may be required to Deposit Account No. 50-1147.

Respectfully submitted,



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